

# SIEMENS

## Data sheet for SIMOTICS S-1FG1

MLFB-Ordering data 1FG1510-5RE33-2CK2-Z  
D16+G23+G99+K06+N23



Figure similar

Client order no. :

Order no. :

Offer no. :

Remarks :

Item no. :

Consignment no. :

Project :

### Gearbox data

|                                           |              |                                         |                        |
|-------------------------------------------|--------------|-----------------------------------------|------------------------|
| Gear box type                             | K89          | Radial force maximum                    | 18100 N                |
| Gearbox basic type                        | Bevel geared | Max. permissible radial force with Mmax | 18100 N                |
| Gearbox size                              | 89           | Moment of inertia                       | 0.42 kgcm <sup>2</sup> |
| Transmission stages                       | 3            | Torsional stiffness                     | 164 Nm/'               |
| Transmission (ratio)                      | 231.80       | Efficiency                              | 0.91                   |
| Gear number relation                      | 10199/44     | Mounting position                       | M6-A                   |
| Output moment maximum (short-time)        | 1610 Nm      | Mounting type                           | Torque plate           |
| max. input speed (briefly)                | 4500 rpm     | Output shaft version                    | Hollow shaft standard  |
| Output speed short-time                   | 19 rpm       | Output shaft dimension                  | H50 mm                 |
| Emergency off output moment (1000 cycles) | 2720 Nm      | Gearbox flange diameter                 | -/-                    |
| Torsional backlash                        | 5.56 '       |                                         |                        |

Figure 2 torque support

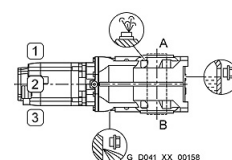
-

### General tech. specifications

|                                                       |                                            |
|-------------------------------------------------------|--------------------------------------------|
| Degree of protection                                  | IP65                                       |
| Color of the housing                                  | Standard painting<br>(Anthracite RAL 7016) |
| Specification                                         | CE / UL / CSA / EAC / cRUus                |
| Net weight                                            | 68.26 kg                                   |
| 1m-sound pressure level L <sub>pA</sub> (Tol.+3dB(A)) | 70                                         |
| Plug position                                         | top (default) (2)                          |
| Adapter flange position                               | top (default) (2)                          |

### Lubrication and sealing

|                      |                           |
|----------------------|---------------------------|
| Gear oil             | Mineral oil CLP ISO VG220 |
| Output shaft sealing | Seal longer service life  |
| Oil charge           | 5.10 l                    |



# SIEMENS

## Data sheet for SIMOTICS S-1FG1

MLFB-Ordering data 1FG1510-5RE33-2CK2-Z  
D16+G23+G99+K06+N23

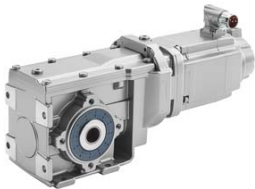


Figure similar

| Motor data             |                                                                                                                                                   | Limiting data                               |                        |
|------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------|------------------------|
| Motor type             | Permanent-magnet synchronous motor                                                                                                                | Maximum speed (short-time)                  | 7200 rpm               |
| Motor type             | Compact                                                                                                                                           | Maximum torque                              | 35.00 Nm               |
| DC-link voltage, max.  | 510...720V                                                                                                                                        | Motor current short term                    | 28.0 A                 |
| Shaft height           | 63 mm                                                                                                                                             | Optimum operating point                     |                        |
| Cooling                | Natural cooling                                                                                                                                   | Optimum speed                               | 3000 rpm               |
| Rated speed            | 3000 rpm                                                                                                                                          | Optimum power                               | 2.10 kW                |
| Rated torque (100K)    | 6.70 Nm                                                                                                                                           | Recommended Motor Module                    |                        |
| Rated power            | 2.10 kW                                                                                                                                           | Rated inverter current                      | 9.0 A                  |
| Rated current (100K)   | 5.30 A                                                                                                                                            | Maximum inverter current                    | 27.0 A                 |
| Static torque          | 10.10 Nm                                                                                                                                          | Maximum torque                              | 34.0 Nm                |
| Static current         | 7.40 A                                                                                                                                            | Holding brake                               |                        |
| Moment of inertia      | 15.70000 kgcm²                                                                                                                                    | Holding brake                               | with holding brake     |
| Efficiency $\eta$      | 91 %                                                                                                                                              | Holding brake version                       | Permanent-magnet brake |
| Temperature monitoring | Pt1000 temperature sensor                                                                                                                         | Power supply voltage                        | DC 24 V $\pm$ 10 %     |
| Connector size         | 1                                                                                                                                                 | Braking torque $M_{1Br} / M_{2Br}$          | 8.50 Nm                |
| Encoder system         | Encoder AM20DQI: absolute encoder 20 bits (resolution 1048576, encoder-internal 512 S/R) + 12 bits multi-turn (traversing range 4096 revolutions) | Holding torque $M_{4Br}$                    | 13.00 Nm               |
|                        |                                                                                                                                                   | Opening time                                | 100.0 ms               |
|                        |                                                                                                                                                   | Closing time                                | 50.0 ms                |
|                        |                                                                                                                                                   | Maximum switching energy per braking action | 380.0 J                |

### Info servo geared motor

Outside the standard temperature range of -10 to +40 °C, further selectable options must be observed, in addition to the lubricant selection.

Further, you have to check the suitability of the components and options used for the requested temperature range.

SIEMENS

Data sheet for SIMOTICS S-1FG1

MLFB-Ordering data

1FG1510-5RE33-2CK2-Z  
D16+G23+G99+K06+N23

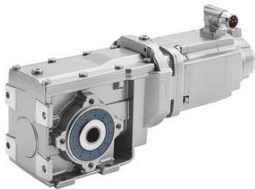


Figure similar

| Options |                                                 | Standards                 |                             |
|---------|-------------------------------------------------|---------------------------|-----------------------------|
| D16     | M6-A for bevel and worm gearboxes               | Compliance with standards | CE / UL / CSA / EAC / cRUus |
| G23     | Seal longer service life                        |                           |                             |
| G99     | Version with reduced backlash                   |                           |                             |
| K06     | Mineral oil CLP ISO VG220                       | CE marking                | EN 60034                    |
| N23     | Standard holding brake (permanent magnet brake) |                           |                             |